SUBSTANCE USE AND MENTAL HEALTH IN RHODE ISLAND (2010)

A STATE EPIDEMIOLOGICAL PROFILE

PREPARED BY

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EXECUTIVE SUMMARY

PURPOSE

The purpose of the 2010 Rhode Island State Epidemiological Profile (Profile) is to inform and assist in data-driven state- and community-level planning and decision making processes relevant to substance use and mental health issues across the State of Rhode Island by providing a user-friendly and comprehensive set of key indicators -- micro level to macro level -- describing the magnitude and distribution of:

- substance use consumption patterns (alcohol, tobacco, and other drugs), as well as their negative consequences across various populations (i.e., youth vs. adult)
- potential risk and protective factors associated with substance use and mental illness
- mental and behavioral health outcomes
-

across the State of Rhode Island.

The Profile is guided by an outcomes based prevention framework, and as such, it identifies the specific areas of need, as well as potential risk and protective factors from all ecological levels.

Data summarized in the Profile can therefore be utilized for promotion, prevention, treatment, recovery and health-care planning for the State of Rhode Island, and the Profile can be used to further inform local health-care priorities.

METHODS

The Profile aims to offer a comprehensive, yet user-friendly summary of key behavioral and mental health indicators for the State of Rhode Island, as well as of the potential risk and protective factors.
The sources of data compiled in the Profile are often publically available, yet the Profile offers several distinct advantages by:

- combining, summarizing and presenting all relevant data in a unified, user-friendly manner
- providing national and regional comparisons for the selected key indicators
- providing temporal trends for the selected key indicators.

At the same time, the Profile is understood to be an evolving document, to be improved and updated regularly both with the additional key indicators and additional years of data, when available.

KEY FINDINGS

1. SUBSTANCE USE:
ADVERSE CONSEQUENCES & CONSUMPTION PATTERNS

LONG- and SHORT- TERM CONSEQUENCES OF SUBSTANCE USE

- As evident from data shown in **Table 2**, several long-term adverse consequences remain elevated in Rhode Island, as compared to the national averages.

- This is especially the case for cardio-vascular disease deaths, liver disease deaths, and chronic obstructive pulmonary disease deaths, whose rates remained greater in Rhode Island since 2000 through 2007.

- The 2000-2007 rates of fatal motor vehicle crashes involving alcohol also remain approximately 30% greater in Rhode Island than in the rest of the nation.

- **SUMMARY: REMAINING A CONCERN**

ALCOHOL and DRUG ABUSE/DEPENDENCE DSM-IV DIAGNOSES
MARIJUANA and ILLICIT DRUG USE

- As evident from data shown in **Table 2**, both alcohol- and drug- related DSM-IV diagnoses increased from 2000 to 2007. This was true for both Rhode Island and the US as a whole.

- However, **Table 3** and **Table 4** show that, while the alcohol-related diagnoses in Rhode Island remained closer to the national trends by 2007, the rates of drug-related diagnoses in Rhode Island have more than doubled since 2000, and in 2007 have exceeded the national average by almost 60%.

- Similarly, as shown in **Table 5**, underage marijuana use – even though there was a decreasing trend from 2000 to 2009 – remained the only underage substance use consumption indicator with prevalence greater in Rhode Island than in the rest of the country.

- At the same time, related to these increasing trends in drug-related diagnoses, **Table 6** documents doubling of the illicit drug use among persons older than 12 years of age in Rhode Island, from 3.0% in 2000 to 5.9% in 2007-2008, resulting in an 64% greater illicit drug use in Rhode Island in 2007-2008 than in the rest of the nation.

- **SUMMARY: INCREASING AND GREAT CONCERN**

UNDERAGE SMOKING AND DRINKING

- As evident from data shown in **Table 5**, underage alcohol and cigarette use has considerably decreased from 2000 to 2009, such that the prevalence of most indicators of underage drinking and smoking among Rhode Island underage population is now roughly 20-25% below national averages.

- For example, in 2009, only 15.8% of Rhode Island youth reported initiating alcohol use before age 13, compared to 21.1% of all US youth .

- Even though the national trends in underage drinking and smoking also declined in this time period, reduction in these consumption trends was greater for Rhode Island.

- For example, in 2000, 29.7% of Rhode Island youth and 29.1% of all USA youth reporting initiating drinking before the age of 13, while in 2010 only 15.8% of Rhode Island and 21.1% of all USA youth reported such an early initiation age.

- **SUMMARY: SIGNIFICANT PROGRESS, IMPROVING TRENDS**

2. RISK & PROTECTIVE FACTORS: ECONOMIC, CRIMINAL JUSTICE, SCHOOL ENVIRONMENT & SPECIAL POPULATION INDICATORS

- As evident from data shown in **Table 7**, Rhode Island compared favorably to the rest of the nation in school- and special-population protective indicators.

- However, unemployment rate in Rhode Island is one of the highest in the nation, exceeding national averages by 21% in 2010.

- SUMMARY: ADDITIONAL YEARS OF DATA NEEDED

3. GENERAL MENTAL HEALTH: DEPRESSION AND SUICIDE-RELATED OUTCOMES

- As evident from the selected indicators shown in **Table 9**, in the past decade Rhode Island was comparable the rest of the nation in terms of depression symptomatology and suicide-related outcomes.

- However, youth suicide attempts in Rhode Island exceeded national averages by 22% in 2009.

- SUMMARY: ADDITIONAL YEARS OF DATA NEEDED

1. INTRODUCTION

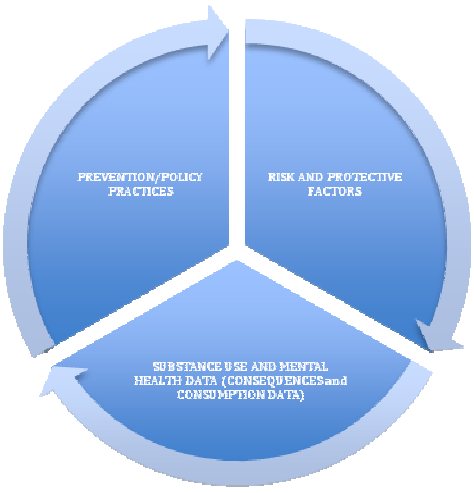
1.a. BACKGROUND

The State Epidemiological Outcomes Workgroup (SEOW) is administered by the Rhode Island Department of Behavioral Healthcare, Developmental Disabilities and Hospitals (BHDDH), the single state authority for substance abuse prevention and treatment and the state mental health authority. BHDDH continues its existing relationship with the Department of Community Health at Brown University, which has lead responsibility for epidemiologic analyses conducted by the SEOW, and the University of Rhode Island (URI) Department of Psychology that provides prevention evaluation services for BHDDH and the SPF SIG.

The primary mission of the SEOW is to guide in institutionalized data-driven planning and decision making relevant to substance use/abuse and mental illness across the State of Rhode Island.

As such, the SEOW operates within the outcomes based prevention framework, aiming to integrate prevalence and incidence data with risk and protective factors data into its decision-making process and policy-making at the state and community level.

Figure 1:
Outcomes Based Prevention



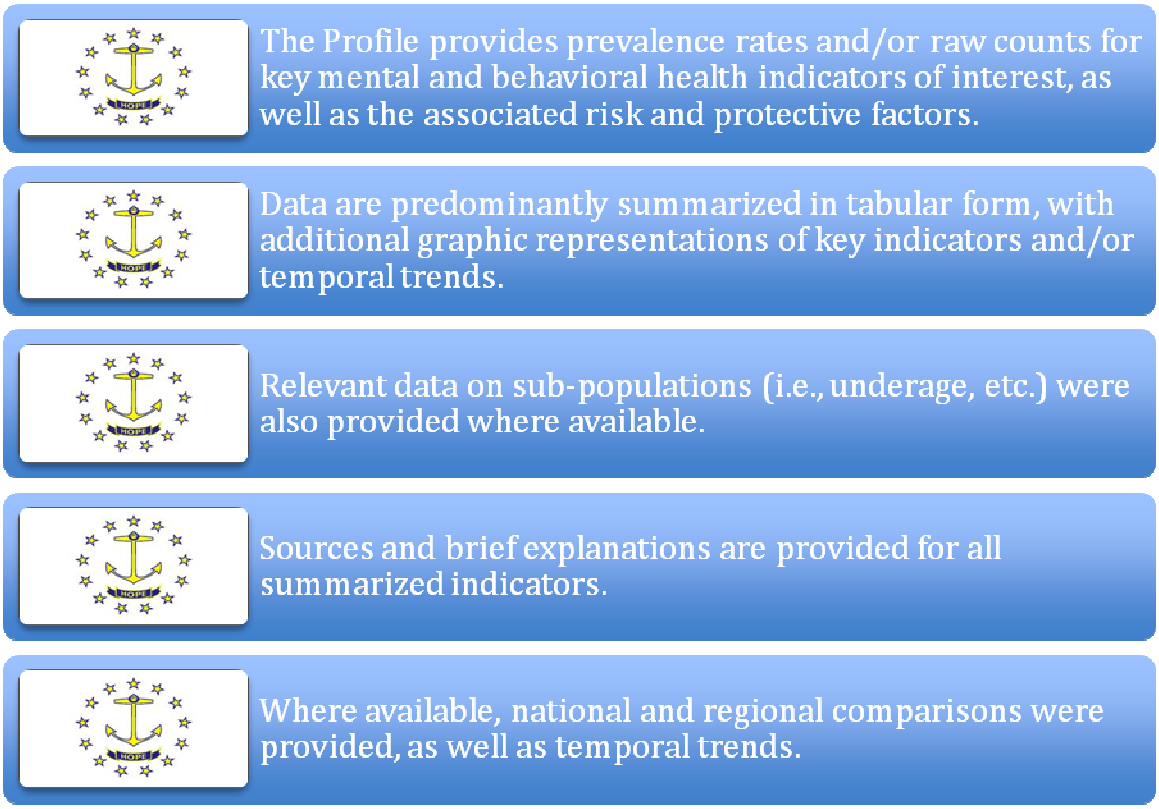
This theoretical orientation is reflected in the Profile, which offers integrated and comprehensive data on magnitude and distribution of:

- substance use and abuse, including both its consumption patterns and short- and long-term negative consequences
- risk and protective factors associated with substance use and mental health
- mental and behavioral health outcomes

across the State of Rhode Island.

1.b. DATA OVERVIEW

The Profile contains most relevant data on statewide substance use and abuse (both consequences and consumption patterns), mental health, and the relevant risk and protective factors.



1.c. RHODE ISLAND DEMO-GEOGRAPHIC CONTEXT

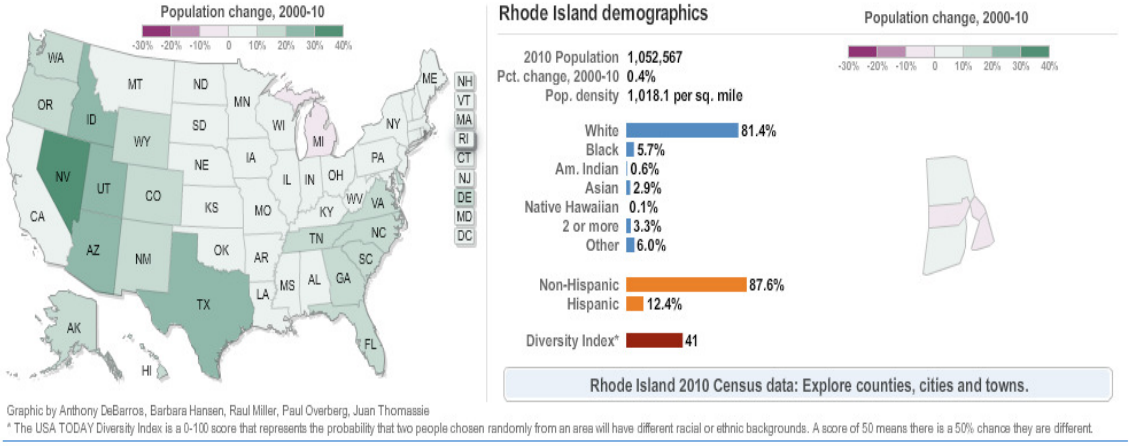
Rhode Island is geographically the smallest US state, located in the New England region of the Northeast, bordering Massachusetts on the north and east and Connecticut on the west.

The 2010 Census estimates its population at 1,052,567, with majority of the population being ethnically/racially White and over 20 years of age.

Table 1 summarizes basic demographic characteristics for the State of Rhode Island, offering comparison with national averages, as well as temporal trends (i.e., data from the 2000 and 2010 Census).

Table 1
Demographic Characteristics of RI and Entire US; 2000-2010

	2000		2010	
Gender	**R.I.**	**U.S.**	**R.I.**	**U.S.**
Male	48.0%	49.1%	48.4%	49.3%
Female	52.0%	50.9%	51.6%	50.7%
Race/Ethnicity				
White	85.0%	75.1%	81.4%	72.4%
Black or African American	4.5%	12.3%	5.7%	12.6%
Hispanic	8.7%	12.5%	12.4%	16.3%
Asian	2.3%	3.6%	2.9%	4.8%
Other	8.2%	9.0%	10.0%	10.2%
Age				
Under 20	26.7%	28.6%	25.3%	27.2%
20 to 24	6.9%	6.7%	7.4%	6.9%
25 to 34	13.4%	14.2%	12.4%	13.5%
35 to 44	16.2%	16.0%	14.1%	14.0%
45 to 54	13.5%	13.4%	15.4%	14.6%
55 to 64	8.5%	8.6%	11.5%	11.1%
65 and over	14.5%	12.4%	14.1%	12.8%



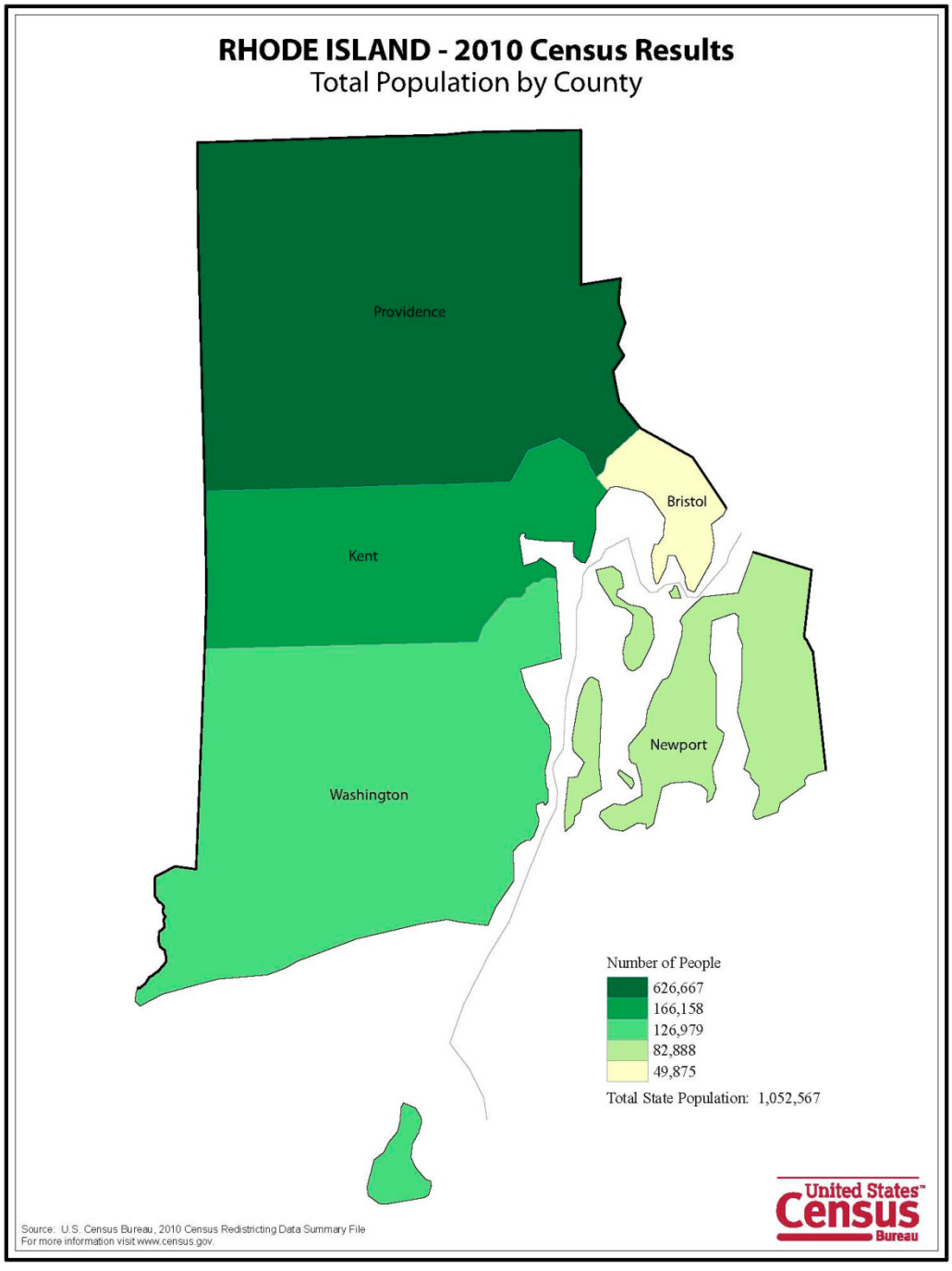
Recently released data from 2010 Census identified Rhode Island as the state with the second smallest population-growth rate in the nation, with population change of only .4% from 2000 to 2010 (Map 1).

Even though this state-wide population grown was minimal, the racial-ethnic composition of Rhode Island changed, such that between 2000 and 2010, Hispanic and non-Hispanic black population increased from 8.7% to 12.4%, and from 4.8% to 6.2%, respectively.

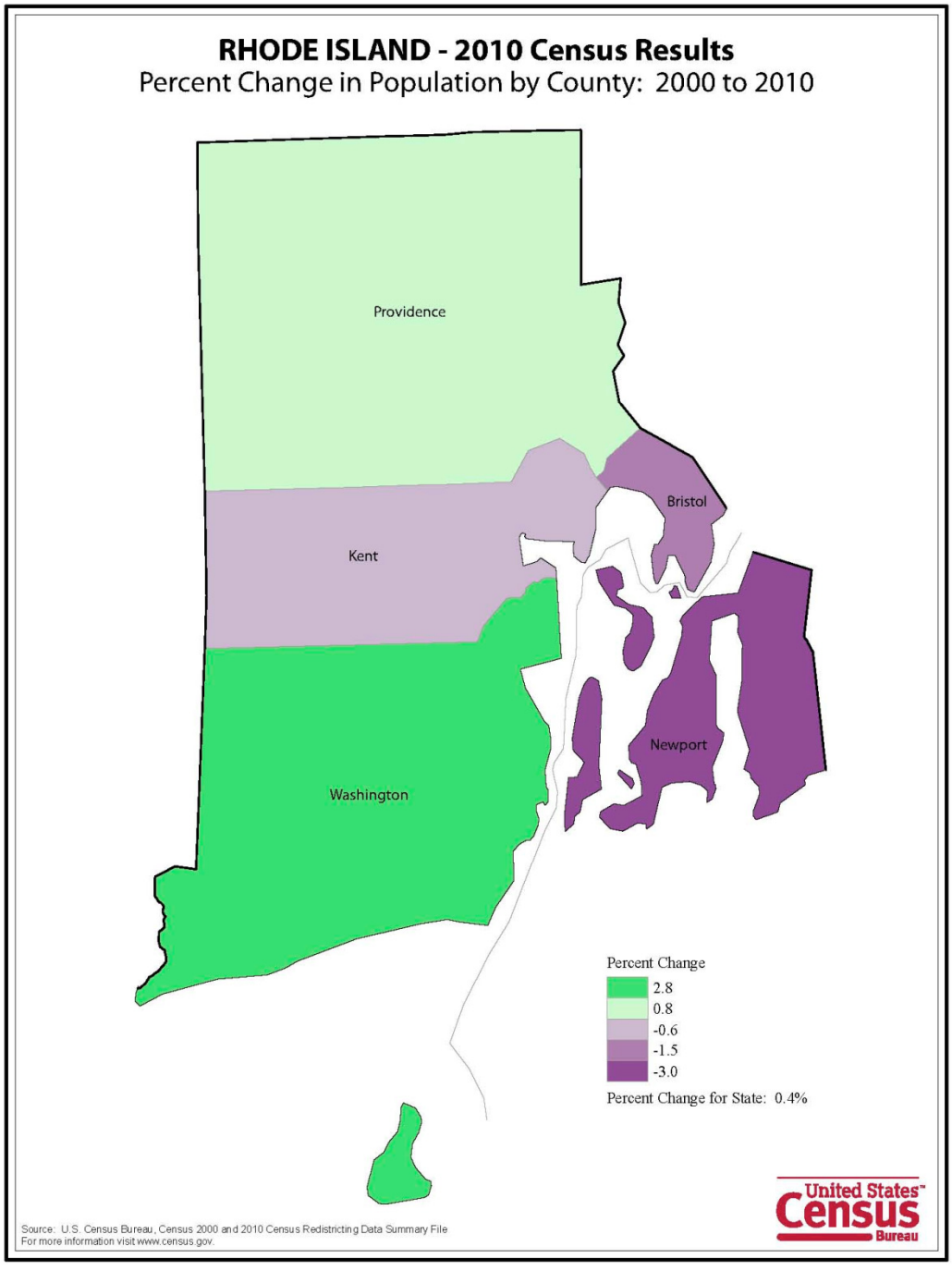
There also appeared to be considerable within-state movement of population, as Providence and Washington counties increased in population, in population between 2000 and 2010 (Map 2). More than 50% of the state's population resides in Providence County and Providence metropolitan area.

Finally, most Rhode Island counties experienced either decrease or minimal growth in youth (i.e., under 18) population, as evident from the data present in Map 3.

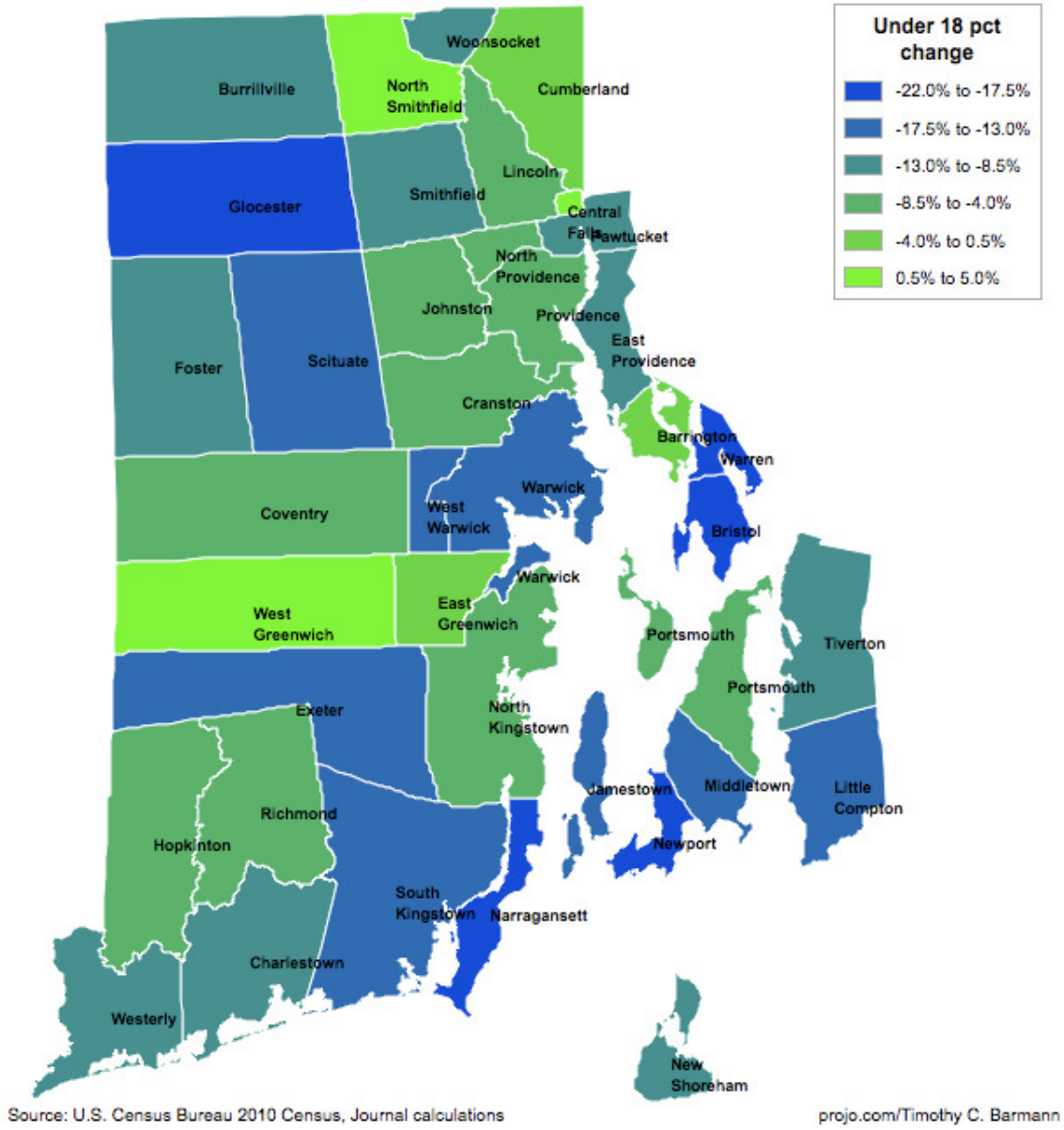
Map 1:
Rhode Island total population by county (Census 2010)



Map 2:
Rhode Island population change (%) by County 2000-2010 (Census 2010)

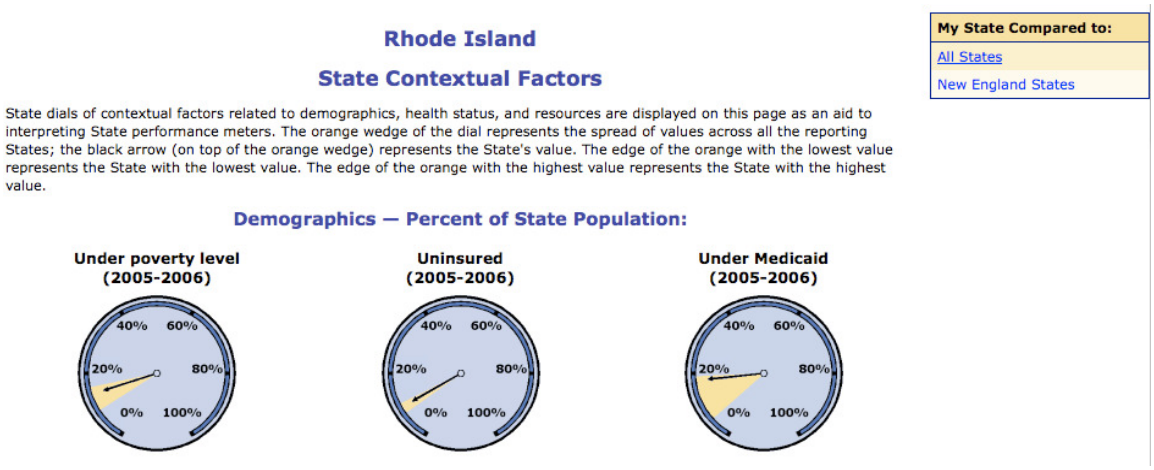


Map 3:
Rhode Island population change (%) in underage population by county 2000-2010 (Census 2010)

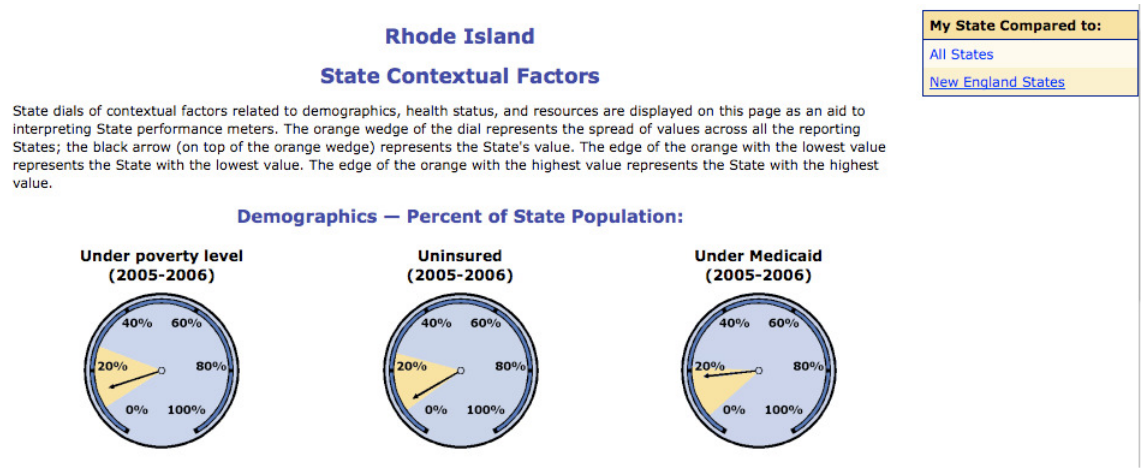


Rhode Island characteristics on additional demographic and contextual indicators

RI vs. US:
Poverty rate, uninsured and Medicaid population



RI vs. New England:
Poverty rate, uninsured and Medicaid population



Source:
Agency for Healthcare Research and Quality (AHRQ)

2. DATA SOURCES, INDICATORS, AND SELECTION CRITERIA

2.a. DATA SOURCES

A complete list of data sources utilized in this report is presented in Table A.

Table A
Data Sources used in the Profile

Source	Description	Sponsoring Agency	Methodology
Behavioral Risk Factor Surveillance System (BRFSS) **Website:** **http://www.cdc.gov/brfss/index.htm**	A state-based system of health surveys that collects information on health risk behaviors, preventive health practices, and health care access primarily related to chronic disease and injury.	The Centers for Disease Control and Prevention (CDC).	A cross-sectional telephone survey conducted by state health departments with technical and methodological assistance provided by the CDC. Frequency of Assessments: Data collected monthly every year. Target Population: Non-institutionalized adults in the US.
Pregnancy Risk Assessment Monitoring System (PRAMS) **Website:** **http://www.cdc.gov/prams/**	A surveillance project that collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy.	The Centers for Disease Control and Prevention (CDC).	The sample of women who have had a recent live birth is drawn from the state's birth certificate file. Women from some groups are sampled at a higher rate to ensure adequate data are available in smaller but higher risk populations. Data collection procedures and instruments are standardized to allow comparisons between states. Frequency of Assessments: Annual. Target Population: Women in the United States who have had a recent live birth.

Youth Risk Behavior Surveillance System (YRBS) **Website:** **http://www.cdc.gov/HealthyYouth/yrbs**	Monitors priority health-risk behaviors and the prevalence of obesity and asthma among youth and young adults.	The Centers for Disease Control and Prevention (CDC).	YRBSS includes a national school-based survey conducted by CDC as well as state, territorial, and local school-based surveys conducted by education and health agencies. Frequency of Assessments: Bi-annual. Target Population: Students in grades 9-12 in the US.
National Survey of Drug Use and Health (NSDUH) **Website:** **https://nsduhweb.rti.org/**	A survey that provides national and state-level data on the use of tobacco, alcohol, illicit drugs (including non-medical use of prescription drugs) and mental health in the United States	The Substance Abuse and Mental Health Services Administration (SAMHSA)	A scientific random sample of US households, with the professional interviewer visiting each selected household. After answering a few general questions, one or two residents of the household may be asked to participate in the survey by completing an interview. Frequency of Assessment: Annual. Target Population: Individuals in the US aged 12 and older.
National Vital Statistics System (NVSS) **Website:** **http://www.cdc.gov/nchs/nvss.htm**	The National Center for Health Statistics (NCHS) collects and disseminates the Nation's official vital statistics. These data are provided through contracts between NCHS and vital registration systems legally responsible for the registration of vital events – births, deaths, marriages, divorces, and fetal deaths.	The Centers for Disease Control (CDC)	Data are provided through contracts between NCHS and vital registration systems legally responsible for the registration of vital events. Standard forms for the collection of the data and model procedures for the uniform registration of the events are developed and recommended for nationwide use. Frequency of Assessment: On-going; published annually. Target Population: All deaths occurring in the United States.

U.S Census **Website:** **http://2010.census.gov/2010census/**	The U.S. Census counts every resident in the United States.	U.S. Census Bureau	Frequency of Assessment: Every 10 years. Target Population: Every resident in the United States.
Fatality Analysis Reporting System (FARS) **Website:** **http://www.nhtsa.gov/FARS**	A nationwide census providing NHTSA, Congress and the American public yearly data regarding fatal injuries suffered in motor vehicle traffic crashes.	The National Highway Traffic Safety Administration (NHTSA)	The Fatal Accident Reporting System is a crash census system in which a set of files has been built documenting all qualifying fatal crashes. To be included, a crash had to involve a motor vehicle traveling on a traffic way customarily open to the public, and must have resulted in the death of a motorist or a non-motorist within 30 days of the crash. Frequency of Assessment: Annual. Target Population: United States.
Uniform Crime Reports (UCR) **Website:** **http://www.fbi.gov/about-us/cjis/ucr/**	The UCR Program is a voluntary city, university and college, county, state, tribal and federal law enforcement program that provides a nationwide view of crime based on the submission of statistics by law enforcement agencies throughout the country.	Federal Bureau of Investigation (FBI)	Data collected from State agencies. Within the UCR Program, there are two methods of collecting crime data: the traditional Summary reporting system and the National Incident-Based Reporting System (NIBRS). To ensure these data are uniformly reported, the FBI provides contributing law enforcement agencies with a handbook that explains how to classify, define and score offenses. Frequency of Assessment: Annual. Target Population: United States.

U.S. Department of Housing and Urban Development **Website: http://portal.hud.gov/hudportal/**	The Annual Homeless Assessment Report (AHAR) reports provide the latest counts of homelessness nationwide - including counts of individuals, persons in families, and special population groups such as veterans and chronically homeless people.		The AHAR is based on two data sources: 1) one-night, Point-in-Time (PIT) counts of both sheltered and unsheltered homeless populations and 2) Homeless Management Information System (HMIS) electronic administrative databases designed to record and store client-level information on homeless persons. Frequency of Assessment: Annual. Target Population: United States.
Bureau of Labor Statistics (BLS) **Website: http://www.bls.gov/**	The BLS is the principal fact-finding agency for the Federal Government in the broad field of labor economics and statistics. The mission of BLS is to collect, analyze, and disseminate essential economic information to support public and private decision-making.		The Local Area Unemployment Statistics (LAUS) program produces labor force data. The Current Population Survey (CPS) is a monthly survey of households conducted by the Bureau of Census for the Bureau of Labor Statistics, providing data on the labor force, employment, unemployment, persons not in the labor force, hours of work, earnings, and other demographic and labor force characteristics. Frequency of Assessment: Monthly/Annual. Target Population: United States.
The Rhode Island Department of Children, Youth and Families (RI DCYF) **Website: http://www.dcyf.ri.gov/**	The mission of DCYF is to assist families with their primary responsibility to raise their children to become productive members of society.	The Rhode Island Secretariat for Health and Human Services (EOHHS)	

Rhode Island Kids Count **http://www.rikidscount.org**	Rhode Island KIDS COUNT is a statewide children's policy organization that provides independent, credible, comprehensive information on Rhode Island's children.		Data acquired from various state and community level sources.
School Health Profiles **Website:** **http://www.cdc.gov/healthyyouth/profiles/**	Developed by the Centers for Disease Control and Prevention (CDC), in collaboration with state and local education and health agencies, to measure school health policies and practices.	Centers for Disease Control (CDC)	A system of surveys assessing school health policies and practices in states, large urban school districts, territories, and tribal governments. Profiles are conducted biennially by education and health agencies among middle and high school principals and lead health education teachers. Frequency of Assessment: Bi-annual. Target Population: Youth in the United States who attend elementary and secondary schools.
National Survey of Children's Health **Website:** **http://www.nschdata.org**	A national telephone survey that provides a broad range of data and information about children's health and well-being.	The Maternal and Child Health Bureau	Telephone-based survey of households in the United States completed by parents for children between the ages of 0-17 years. Survey results are weighted to represent the population of non-institutionalized children ages 0-17 nationally and in each state. Frequency of Assessment: Conducted in 2003 and 2007. Target Population: Non-institutionalized children ages 0-17 in the United States.

State Health Facts **Website:** **http://www.statehealthfacts.org**	A project of the Henry J. Kaiser Family Foundation designed to provide free, up-to-date, and easy-to-use health data on all 50 states, the District of Columbia, and the US. Provides the latest data on more than 500 health, health care, and health policy topics, comparable across all states.	Kaiser Family Foundation	Data are based on a range of public and private sources. Sources include original Kaiser Family Foundation reports, public websites and data, and information purchased from private organizations. Frequency of Assessment: Updated as data available. Target Population: United States.

2.b. INDICATORS

A complete list of indicators pertinent to substance use (both consumption and consequences), risk and protective factors, and mental and behavioral health utilized in this report is presented in Tables B through F.

Table B
Substance Abuse Consequences Indicators

Indicator	Source	Frequency of Assessments	Target Population
Liver Disease Deaths	NVSS	Data collected throughout the year and published yearly	Entire US
Suicide Deaths	NVSS	Data collected throughout the year and published yearly	Entire US
Homicide Deaths	NVSS	Data collected throughout the year and published yearly	Entire US
Lung Cancer Deaths	NVSS	Data collected throughout the year and published yearly	Entire US
Chronic Obstructive Pulmonary Disease Deaths	NVSS	Data collected throughout the year and published yearly	Entire US
Cardiovascular Disease Deaths	NVSS	Data collected throughout the year and published yearly	Entire US
Fatal MV Crashes involving Alcohol	FARS	Annual	Entire US
Vehicle Deaths Related to Alcohol	FARS	Annual	Entire US
Drivers in Fatal MV Crashes involving Alcohol	FARS	Annual	Entire US
Number of Violent Crimes	UCR	Annual	Entire US
Number of Property Crimes	UCR	Annual	Entire US
DSM-IV Alcohol Abuse/Dependence Criteria	NSDUH	Annual	US individuals aged 12 and older
DSM-IV Drug Abuse/Dependence Criteria	NSDUH	Annual	US individuals aged 12 and older

MV = Motor Vehicle

Table C
Consumption Indicators (Underage population)

Indicator	Source	Frequency of Assessments	Target Population
%□of□Students□(grades□9-12)□Reporting:			
Alcohol□use□past□month□	YRBS	Every two years	Students in grades 9-12 in the US
Binge□drinking□past□month	YRBS	Every two years	Students in grades 9-12 in the US
Initial□use□of□alcohol□before□age□13	YRBS	Every two years	Students in grades 9-12 in the US
Drinking□and□driving□past□month	YRBS	Every two years	Students in grades 9-12 in the US
Driving□in□car□with driver□who□had been drinking□past□month	YRBS	Every two years	Students in grades 9-12 in the US
Smoking cigarettes□20+□days past month	YRBS	Every two years	Students in grades 9-12 in the US
Initial□use□of□tobacco□before□age□13	YRBS	Every two years	Students in grades 9-12 in the US
Using□marijuana□past□month	YRBS	Every two years	Students in grades 9-12 in the US
Initial□use□of□marijuana□before□age□13	YRBS	Every two years	Students in grades 9-12 in the US

Table D
Consumption Indicators (Adult/All population)

Indicator	Source	Frequency of Assessments	Target Population
Driving when "Perhaps had too much to drink" past month	BRFSS	Monthly, every year	Non-institutionalized US adults
Heavy drinking past month	BRFSS	Monthly, every year	Non-institutionalized US adults
Binge drinking past month	NSDUH	Annual	Individuals in the US aged 12 and older
Current smoking past month	NSDUH	Annual	Individuals in the US aged 12 and older
Illicit drug use (other than marijuana) past month	NSDUH	Annual	Individuals in the US aged 12 and older

Table E
Intervening (Risk and Protective) Factors

Indicator	Source	Frequency of Assessments	Target Population
Homelessness Rate	U.S. Dept. of Housing & Urban Development	Annual	US
Unemployment Rate	BLS	Annual	US
Child abuse and neglect indicated victims	RI DCYF	On-going	RI Children/Families
Children with incarcerated parents	RI DCYF	On-going	RI Children/Families
Domestic violence incidents with children present	RI DCYF	On-going	RI Children/Families
Students enrolled in special education	RI Kids Count	Annual	RI Students
High school graduation rate	RI Kids Count	Annual	RI Students
HS students who ever brought weapon to school	RI Dept. of Education	Annual	Public school students in RI
HS students ever experiencing violence at school	RI Dept. of Education	Annual	Public school students in RI
HS and MS students reporting that someone tried to sell them drugs one or more times in school	RI Dept. of Education	Annual	Public school students in RI
Schools with required Health Education (in any grades 6-12)	School Health Profiles	Bi-annual	Elementary and secondary school youth in the US
Schools where teachers tried to increase student knowledge of emotional and mental health	School Health Profiles	Bi-annual	Elementary and secondary school youth in the US
Children with emotional/developmental/behavioral problems receiving mental health care	State Health Facts	On-going	US
Children with emotional/behavioral/developmental condition receiving mental health treatment or counseling in the past year	National Survey of Children's Health	2003 and 2007	Non-institutionalized children ages 0-17 in the US

Table F
Mental & Behavioral Health Indicators

Indicator	Source	Frequency of Assessments	Target Population
Current depression symptoms	BRFSS	Monthly/Annually	Non-institutionalized US adults
Post-partum depression symptoms	PRAMS	Yearly	US women who have had a recent live birth.
Suicide Deaths	NVSS	On-going, published annually	Entire US
Felt sad/hopeless almost every day for 2+ weeks in a row in past year	YRBS	Bi-annual	US students in grades 9-12
Youth suicidal ideation	YRBS	Bi-annual	US students in grades 9-12
Youth suicidal plans	YRBS	Bi-annual	US students in grades 9-12
Youth suicide attempts	YRBS	Bi-annual	US students in grades 9-12

2.c. SELECTION CRITERIA

The approach used for the RI epidemiologic profile was summarized in the document "General Outline for RI SAMSHA: SPF SIG Analytic Plan", generated in early 2006 for review by both state and SAMSHA staff. The goals of the analysis were to identify those substance-related consequences that are particularly prevalent / burdensome for the citizens of Rhode Island compared to other states within the U.S.

This proposed analytic plan was discussed with staff of the Pacific Institute for Research and Evaluation (PIRE) on March 22, 2006 with feedback on April 4, 2006. The current analytic plan and results are the outcome of this proposed approach with modifications as suggested by the PIRE group.

At the heart of the RI analysis is a list of 14 indicators of adverse consequences highlighted in the "State Epidemiological Data System (SEDS) report that was generated for the use of the SPF SIG recipients by CSAP.

- As a first step, RI epidemiologists obtained data for each of these consequence indicators and compared these to the entire U.S., the highest and lowest states in the U.S., and all nine states in the northeast (ME, NH, VT, MA, RI, CT, NY, NJ, PA). These data were initially collected for the year 2000 in order to capitalize on census data that were also available at that time. Subsequent analyses would compare selected SEDS consequence indicators for years both prior to, and after, 2000. Data were obtained for all but one of these consequence indicators; data on "deaths due to illicit substance use" could not be located.

- As a second step, RI epidemiologists reviewed a list of SEDS consumption indicators that also had been identified by SAMHSA staff. As for the 14 consequence indicators, these also were also compared to the U.S., to the highest and lowest states, and to all nine states in the northeast. However, not all 25 indices were considered. As will be detailed further below the RI team selected a subset of 11 consumption indicators.

  Criteria for inclusion included:

  a) the consumption indices were related to those substance-related consequences deemed to be of high burden for RI residents (in Step 1 above);

  b) an emphasis on youth consumption, as a likely precursor to the targeted substance-related adverse consequences identified above.

- As a final step for those consequence or consumption indices for which RI was above national or regional levels, trend data were obtained for 1995 to 2005 (for all years available) and more detailed demographic analyses of rates among particular subgroups (age, race/ethnicity, gender) were calculated.

- **Current Profile (2010) continued to monitor and analyze substance use indicators -- including consumption patterns, negative consequences, sub-population and temporal trends -- identified in the initial selection procedures as described above.**

- Additional indicators relevant to mental health outcomes and potential risk and protective factors were added. The mental health measures included depression and suicide, as prevalence rates for these outcomes were readily available at the state and national level.

- **Protective factors focused on socio-economic environment (such as unemployment, school safety, etc.), and youth access to health education and healthcare services related to substance use and mental health.**

3. BODY OF REPORT (DATA)

SECTION 1:
KEY SUBSTANCE USE CONSEQUENCES AND CONSUMPTION PATTERNS

The following section summarizes key substance use consequences and consumption patterns comparing Rhode Island (RI) to the United States. Table 2 includes 14 indicators of adverse consequences of substance use, both short- and long-term ones.

LONG-TERM ADVERSE CONSEQUENCES OF SUBSTANCE USE

One of the long-term adverse consequences of substance use is manifested through liver disease (i.e., cirrhosis). Liver disease deaths disease remained continually elevated in RI as compared to the entire US: 27% and 20% increased rate in 2000 and 2007, respectively. Both national and RI trends in liver disease deaths appeared relatively stable over this time-period.

Cardiovascular deaths in RI also exceed national averages by 24% in 2007, an increase from already elevated rates (15%, or 1.15) in 2000. The national rates of cardio-vascular deaths did not appear to change substantially, pointing to increases in cardiovascular deaths in RI from 2000. Deaths from chronic obstructive pulmonary disease also appear to be greater in RI as compared to the US[1].

SHORT TERM ADVERSE CONSEQUENCES OF SUBSTANCE USE

RI also had increased rates of fatal motor vehicle crashes involving alcohol (30% greater than the US in 2007). The rate of these crashes decreased in RI from 2000 to 2007. Violent crime and property crime rates were lower in RI than the US and also decreased between 2000 and 2007.

SUBSTANCE-RELATED DIAGNOSES

Rates of drug abuse/dependence were elevated in RI and increased between 2000 and 2007. RI had almost a 60% greater rate of DSM-IV drug abuse/dependence than the US average.

As shown in Table 3, rates of alcohol abuse or dependence decreased slightly between 2004 and 2007-2008 in RI and are now similar to the national rate. In contrast, rates of drug abuse or dependence increased over time and are considerably higher in RI as compared to the US (Table 4).

OTHER SUBSTANCE USE CONSEQUENCES

RI had lower rates of suicide, homicide, and lung cancer deaths in 2007. Violent crime and property crime rates were lower in RI than the US and also decreased between 2000 and 2007.

[1] Note, however, a slightly changed definition of COPD deaths in 2007 (Table 2).

Table 2
RI vs. US Comparison on 14 indicators of adverse consequences of substance use (2000-2007)

	2000			2007		
Substance Use Consequence Indicators:	**RI**	**US**	**Ratio RI/US**	**RI**	**US**	**Ratio RI/US**
Liver Disease Death	0.12	0.10	**1.27**	0.11	0.09	**1.20**
Suicide Death	0.07	0.11	0.66	0.06	0.11	.59
Homicide Death	0.04	0.06	0.67	0.02	0.06	.38
Lung Cancer Death	0.58	0.56	**1.04**	0.34	0.51	**.66**
Chronic Obstr. Pulmonary Disease Death*	0.61	0.60	**1.01**	1.05	0.83	**1.27**
Cardiovascular Disease Death	2.97	2.58	**1.15**	3.23	2.61	**1.24**
Fatal MV Crashes inv. Alcohol	51%	40%	**1.27**	41%	32%	**1.3**
Vehicle Deaths Related to Alcohol	0.04	0.06	0.65	--	--	--
Drivers in Fatal MV Crashes inv. Alcohol	37%	25%	**1.48**	24%	48%	**.50**
Violent Crime	2.98	5.06	0.58	2.53	4.27	.59
Property Crime	31.79	36.18	0.87	26.12	30.19	.87
DSM-IV Alcohol Abuse/Dependence	6.4%	5.5%	1.15	7.8%	7.4%	1.04
DSM-IV Drug Abuse/Dependence	1.9%	2.0%	**.96**	4.4%	2.8%	**1.59**

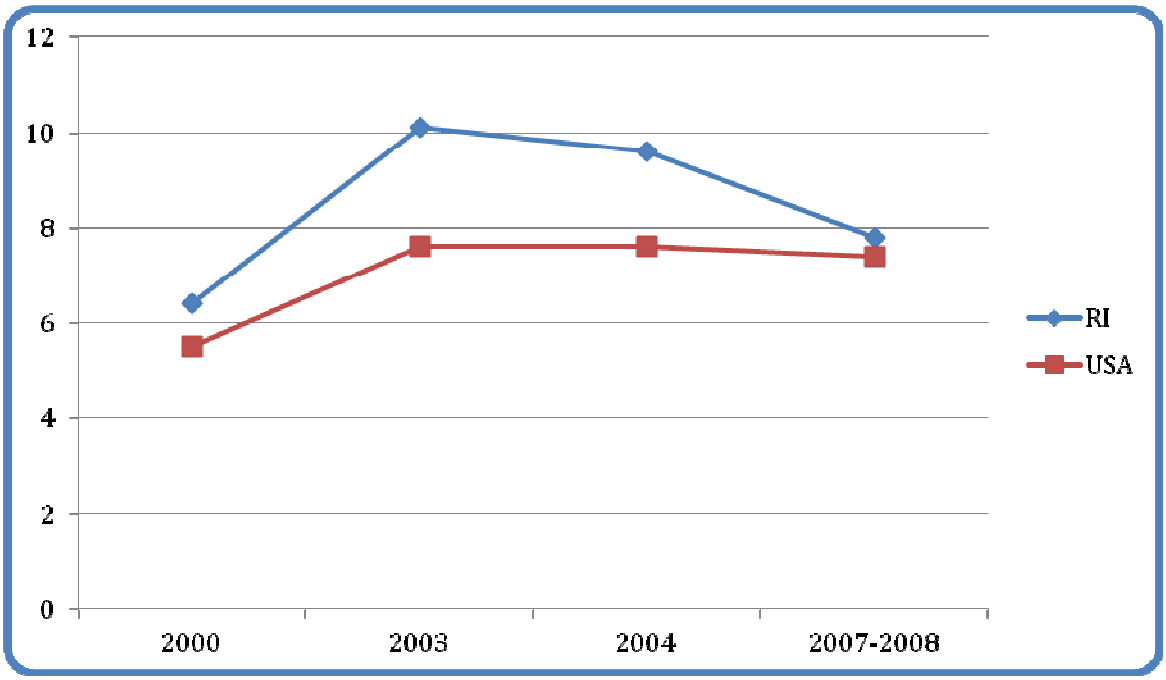
Note:
Ratios greater than 1 indicate those consequences where RI exceeds the national average.
All rates are per 1,000 population, except for data denoted with % (i.e., shown per 100 population).
* The 2007 COPD rate was computed only for adults aged 45 years and older.

Table 3
DSM-IV Alcohol Abuse or Dependence Diagnosis (%); Time-trend

DSM-IV Alcohol Abuse/Dependence (%)	2000	2003	2004	2007-08
RI	6.4	10.1	9.6	7.8
US	5.5	7.6	7.6	7.4
RI/US Ratio	**1.15**	**1.33**	**1.25**	**1.04**

Note:
Ratios greater than 1 indicate that RI exceeds the national average.

Figure 1
DSM-IV Alcohol Abuse/Dependence diagnosis trends (%), RI vs. US



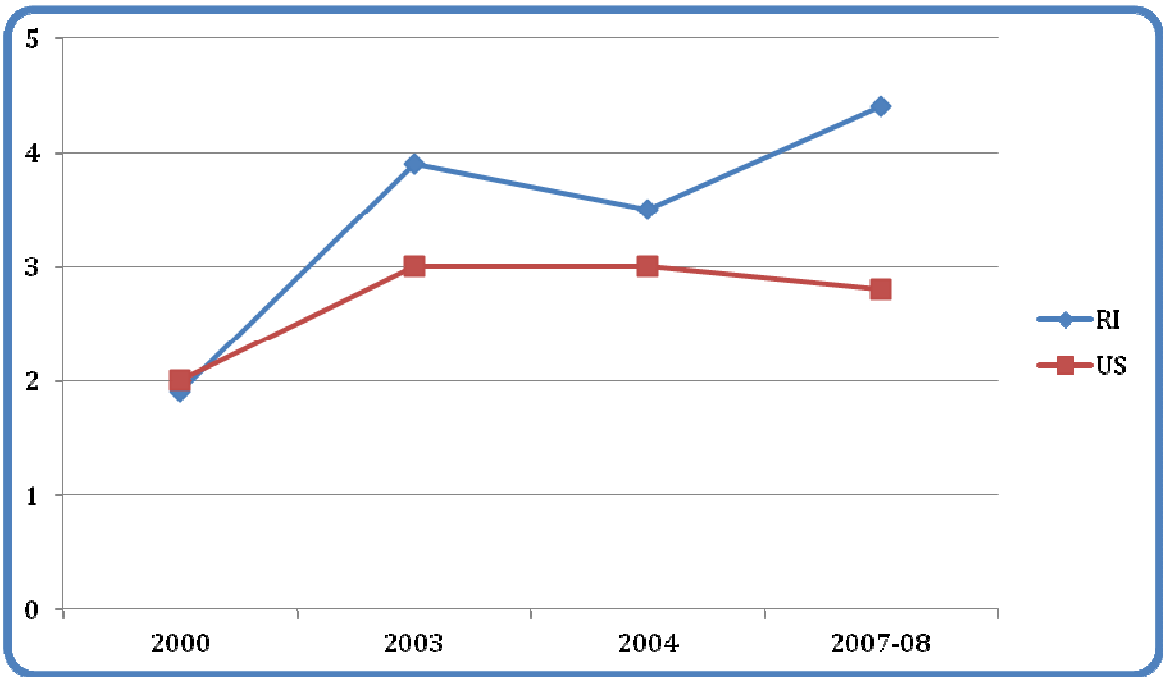
Note:
Y-axis shows % of population with an alcohol abuse or alcohol dependence diagnosis.

Table 4
DSM-IV Drug Abuse or Dependence Diagnosis (%), Time-trend

DSM-IV Drug Abuse/Dependence (%)	2000	2003	2004	2007-08
RI	1.9	3.9	3.5	4.4
US	2.0	3.0	3.0	2.8
RI/US Ratio	**.96**	**1.32**	**1.17**	**1.59**

Note:
Ratios greater than 1 indicate that RI exceeds the national average.

Figure 2
DSM-IV Drug Abuse/Dependence diagnosis trends (%), RI vs. US



Note:
Y-axis shows % of population with drug abuse or drug dependence diagnosis.

UNDERAGE SUBSTANCE USE

Table 5 shows comparison of RI versus the US on nine consumption indicators for the youth population.

Rates of alcohol and cigarette use were lower in RI as compared to the US. Furthermore, all of these underage substance use indicators in Rhode Island decreased between 2000 and 2009.

However, rates of marijuana use, including past month use and initiation of use before age 13, were elevated among RI youth. RI youth were 26% more likely to use marijuana in the past month than the national average. However, rates of underage marijuana use in Rhode Island decreased between 2000 and 2009, from 33.2% to 26.3%.

OVERALL SUBSTANCE USE

Table 6 shows RI versus the US on five consumption indicators.

Rates of heavy drinking, binge drinking and illicit drug use were higher in RI than in the US.

Rates of current smoking remained stable and relatively comparable to national averages, yet of particular concern are the rates for binge drinking and illicit drug use among individuals over 12 years of age, both of which increased in Rhode Island since 2000.

Binge drinking increased by 5% (from 23.8% in 2000 to 27.7% in 2007-08) while the national rates of binge drinking were actually reduced during the same time period.

Illicit drug use was 64% greater among individuals aged 12 and older in RI as compared to the US. Rates of illicit drug use in RI also doubled between 2000 and 2007-8 from 3.0% to 5.9%.

Tables 6a and 6b, and corresponding figures document these substance use trends in more detail.

Table 5
RI vs. US comparison on nine key Consumption Indicators for underage population (<18), 2000-2009

Consumption Indicators % of Students (grades 9-12) Reporting:	2000			2009		
	RI	US	Ratio RI/US	RI	US	Ratio RI/US
Alcohol use						
Alcohol use past month	50.3%	47.0%	**1.07**	34.0%	41.8%	**.81**
Binge drinking past month	30.7%	29.9%	**1.02**	18.7%	24.2 %	**.77**
Initial use of alcohol before age 13	29.7%	29.1%	**1.02**	15.8%	21.1%	**.75**
Drinking and driving past month	15.5%	13.3%	**1.16**	7.2%	9.7%	**.74**
Driving in car with driver who had been drinking (past month)	32.3%	30.7%	**1.05**	23.1%	28.3%	**.82**
Cigarette use						
Smoking cigarettes 20 + days past month	14.2%	13.8%	**1.03**	5.4%	7.3%	**.74**
Initial use of tobacco before age 13	22.3%	22.1%	**1.01**	8.4%	10.7%	**.79**
Marijuana use						
Using marijuana past month	33.2%	23.9%	**1.38**	26.3%	20.8%	**1.26**
Initial use of marijuana before age 13	12.8%	10.2%	**1.25**	8.3%	7.5%	**1.11**

Note:
Ratios greater than 1 indicate those consumption patterns where RI exceeds the national average.
Ratios smaller than 1 indicate those consumption patterns where RI is lower than the national average.

Table 6
RI vs. US Comparison on five key Consumption Indicators, 2000-2008

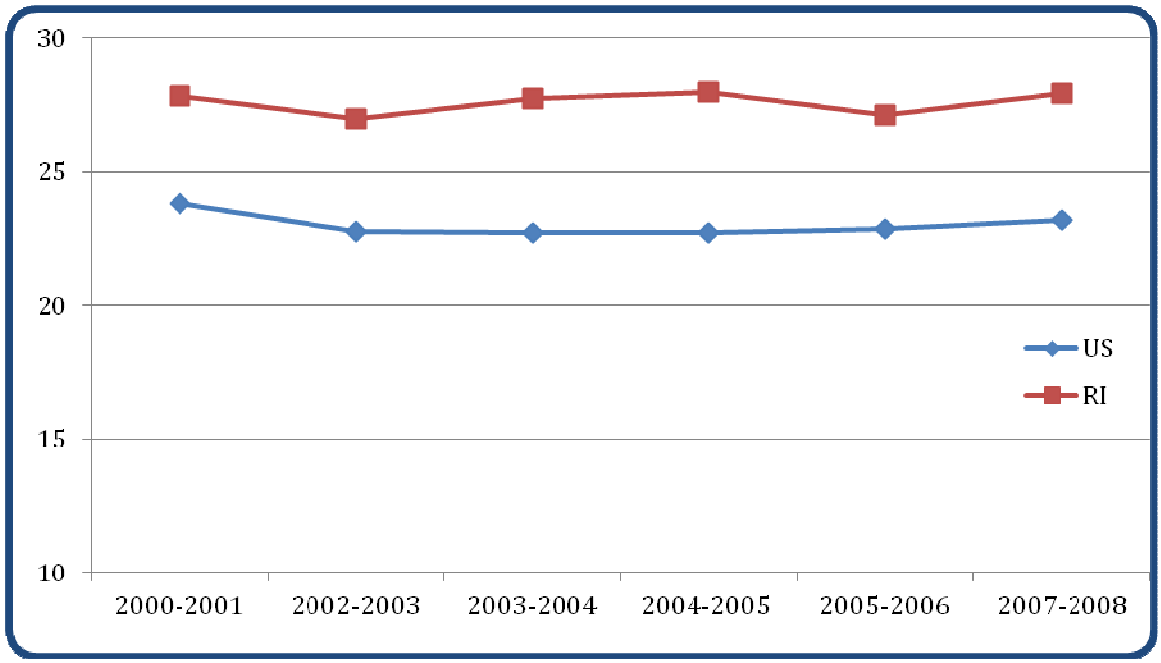
Consumption Indicators:	2000			2007-2008		
	RI	US	Ratio RI/US	RI	US	Ratio RI/US
% of Adults (aged 18+) Reporting:						
Driving when "Perhaps Had too Much to Drink" past month	4.5%	4.8%	0.93	n/a	n/a	n/a
Heavy drinking past month	7.3%	5.9%	**1.24**	7.1%	5.2%	**1.36**
% of Individuals aged 12+ Reporting:						
Binge drinking past month	23.8%	27.8%	**0.85**	27.7%	23.3%	**1.19**
Current smoking past month	23.4%	23.2%	1.0	24.7%	24.1%	1.03
Illicit drug use (other than mj) past month	3.0%	2.9%	**1.05**	5.9%	3.6%	**1.64**

Note:
Heavy drinking = Average daily alcohol consumption greater than 2 drinks (male) and greater than 1 (female) per day.
mj = marijuana
Ratios greater than 1 indicate those consumption patterns where RI exceeds the national average.
Ratios smaller than 1 indicate those consumption patterns where RI is lower than the national average.

Table 6a
Percent of individuals aged 12 or older reporting binge drinking past month

	2000-2001	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
US	23.8	22.75	22.69	22.7	22.82	23.15	23.3%
Rhode Island	27.8	26.97	27.71	27.96	27.12	27.92	27.7%

Figure 3
Binge drinking trends (%), RI vs. US

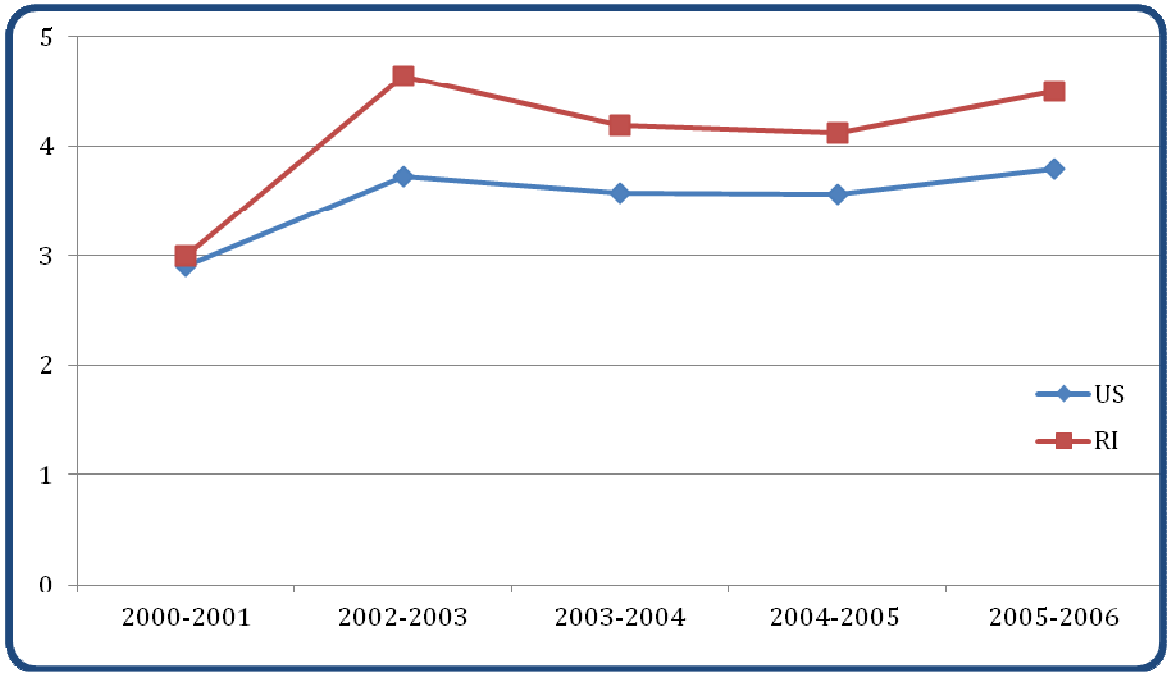


Note:
Y-axis shows percent of population aged 12 years or older reporting binge drinking (i.e., consuming 5 or more alcoholic drinks in a row) past month.

Table 6b
Percent of individuals aged 12 or older reporting illicit drug use (other than marijuana) in past month

	2000-2001	2002-2003	2003-2004	2004-2005	2005-2006	2007-2008
US	2.9	3.73	3.58	3.56	3.8	3.58
Rhode Island	3.0	4.64	4.19	4.12	4.5	5.87

Figure 4
Illicit drug use trends (%), RI vs. US



Note:
Y-axis shows percent of population aged 12 years or older reporting illicit drug use (other than marijuana) past month.

SECTION 2:
KEY RISK/PROTECTIVE/INTERVENING VARIABLES

The following section summarizes data on key risk, protective, and intervening indicators.

Table 7 shows a comparison of RI and the US on intervening indicators. RI had a higher unemployment rate than the US. With regard to protective factors, RI had a greater proportion of schools with required health education, as well as schools where teachers tried to increase student knowledge of emotional and mental health issues.

Among children with emotional, developmental or behavioral problems, RI children were 27% more likely to receive mental health care in the past year and 20% more likely to receive mental health treatment or counseling in the past year, as compared to children in the entire US.

Table 8 shows trends in school drug sales in RI from 2003 to 2008. Rates of students reporting someone trying to sell them drugs in school decreased slightly among middle school students but remained relatively stable among high school students.

Table 7
RI vs. US Comparison on Intervening Indicators

Risk and Protective Factors Indicators	Year	RI	US	Ratio RI/US
Economic Factors				
Homelessness Rate per 1,000	2009	1.53	2.08	0.73
Unemployment Rate (annual average)	2010	11.6	9.6	**1.21**
High school graduation rate	2009	76%	74.9%	1.01
Violence and Crime				
Children with incarcerated parents per 1,000	2010	10.4		
Domestic violence incidents with children present	2010	29%		
Child abuse and neglect indicated victims per 1,000	2010	13.3		
School Environment				
HS students reporting ever bringing weapon to school	2008	13.0%		
HS students reporting ever experiencing violence at school	2008	12.0%		
HS students reporting that someone tried to sell them drugs one or more times at school	2008	29.0%		
Schools with required Health Ed (in any grades 6-12)	2008	98.9%	90.6%	**1.09***
Schools where teachers tried to increase student knowledge of emotional and mental health	2008	94.0%	91.3%	1.03
Special Populations				
Children with emotional/developmental/behavioral problems receiving mental health care in past year	2007	76.0%	60.0%	**1.27***
Children with emotional/developmental/behavioral problems receiving mental health tx/counsel in past	2007	54.7%	45.6%	**1.20***

Note:
Ratios greater than 1 indicate those intervening factors where RI exceeds the national average, with * marking potential protective factors.

Table 8
School Drug Sales in Rhode Island (%), Time-trend

RI students reporting someone trying to sell them drugs one or more times in school						
	2003	**2004**	**2005**	**2006**	**2007**	**2008**
Middle School Students	12%	12%	13%	11%	11%	10%
High School Students	30%	30%	30%	30%	30%	29%

SECTION 3:
KEY MENTAL/BEHAVIORAL HEALTH INDICATORS

The following section summarizes key mental and behavioral health indicators.

Table 9 shows mental health indicators for RI as compared to the US. Rates of depression among adults and feelings of sadness/hopelessness among youth were similar in RI and the US. RI had a 41% lower rate of suicide deaths and 14% lower rate of youth suicide ideation, as compared to the US.

However, rates of youth suicide plans and, in particular, attempts were greater in RI.

Table 9
RI vs. US Comparison on General Mental Health Indicators

Indicator	Year	RI	US	Ratio RI/US
General Population				
Current depression symptoms (adults)	2006	9.0%	9.0%	1.0
Post-partum depression symptoms	2005	14.1%	n/a	n/a
Suicide Deaths	2007	0.06	0.11	.59
Youth Population				
Felt sad/hopeless almost every day for 2+ weeks in a row in past year	2009	25.0%	26.1%	.96
Youth suicidal ideation	2009	11.8%	13.8%	.86
Youth suicidal plans	2009	11.3%	10.9%	1.04
Youth suicide attempts	2009	7.7%	6.3%	**1.22**

Note:
Ratios greater than 1 indicate mental health indicators where RI exceeds the national average.

4. DATA LIMITATIONS AND GAPS

Even though this Profile seeks to provide a comprehensive summary of substance use and mental health-related indicators and risk/protective factors in the state of Rhode Island, there are data-related limitations the reader should keep in mind.

- The Profile is limited by the availability, accuracy and comprehensiveness of the original sources of data. Therefore, most recent years of data or demographic break-downs of indicators may not always be available. Every effort will be made to keep the Profile up-to-date.

- It is recommended that the reader review Tables A through F to better understand the advantages and limitations inherent in each of the original data sources used for this Profile.

- Data provided in this Profile are presented in crude form, without any demographic adjustments. Also, confidence intervals for these estimates were not included.

- At this time, the Profile focused primarily on the underage population as the key demographic sub-group of interest. Future versions of the Profile will aim to extend demographic breakdowns to additional populations of interest, and to include racial, gender, and health-status breakdowns.

- Rhode Island is the geographically smallest state in the US, with a relatively small population . How these geographic characteristics and the proximity of larger metropolitan areas (i.e., Boston) affect prevalence rates presented in this Profile is unknown.

5. CONCLUSION

The Profile contains most relevant data on statewide substance use and abuse (both consequences and consumption patterns), mental health, and the relevant risk and protective factors.

Keeping the inherent limitations in mind, the data summarized in the Profile can therefore be utilized for promotion, prevention, treatment, recovery and health-care planning for the State of Rhode Island.

6. APPENDICES

None.